



CCCCCCCC	RRRRRRRR	FFFFFFFFFF	000000	RRRRRRRR	
CCCCCCCC	RRRRRRRR	FFFFFFFFFF	000000	RRRRRRRR	
CC	RR	RR	00	RR	RR
CC	RR	RR	00	RR	RR
CC	RR	RR	00	RR	RR
CC	RR	RR	00	RR	RR
CC	RRRRRRRR	FFFFFFFFFF	00	RRRRRRRR	
CC	RRRRRRRR	FFFFFFFFFF	00	RRRRRRRR	
CC	RR	RR	00	RR	RR
CC	RR	RR	00	RR	RR
CC	RR	RR	00	RR	RR
CC	RR	RR	00	RR	RR
CCCCCCCC	RR	RR	000000	RR	RR
CCCCCCCC	RR	RR	000000	RR	RR

....  
....  
....  
....

LL	IIIIII	SSSSSSSS
LL	IIIIII	SSSSSSSS
LL	II	SS
LL	II	SS
LL	II	SS
LL	II	SS
LL	II	SSSSSS
LL	II	SSSSSS
LL	II	SS
LL	II	SS
LL	II	SS
LL	II	SS
LLLLLLLLLL	IIIIII	SSSSSSSS
LLLLLLLLLL	IIIIII	SSSSSSSS

(2)	43	DECLARATIONS
(3)	49	LIB\$CRF_INS_KEY INSERT A KEY
(4)	80	LIB\$CRF_INS_REF INSERT REFERENCE
(5)	110	LIB\$CRF_OUTPUT OUTPUT THE CROSS REFERENCE LISTING

```
0000 1      .TITLE CRFOR  FORTRAN-CALLABLE CRF INTERFACE ROUTINES
0000 2      .IDENT 'V04-000'
0000 3
0000 4
0000 5      *****
0000 6      *
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0000 24     *
0000 25     *
0000 26     *  *****
0000 27     *
0000 28     *
0000 29     *++
0000 30     *  FACILITY: CROSS REFERENCE PROGRAM
0000 31     *
0000 32     *  ABSTRACT: THIS MODULE CONTAINS INTERFACE ROUTINES TO CRF FOR FORTRAN
0000 33     *
0000 34     *
0000 35     *  ENVIRONMENT: IT IS PART OF A LINKABLE IMAGE.
0000 36     *
0000 37     *  AUTHOR: BENN SCHREIBER,      CREATION DATE: 19-SEP-1979
0000 38     *
0000 39     *  MODIFIED BY:
0000 40     *
0000 41     *--
```



```
0000 43 .SBTTL DECLARATIONS
0000 44 :
0000 45 : MACROS:
0000 46 :
0000 47 $CRFDEF ; DEFINE CRF GLOBALS
```

```
0000 49 .SBTTL LIB$CRF_INS_KEY INSERT A KEY
0000 50 :++
0000 51 : FUNCTIONAL DESCRIPTION:
0000 52 :
0000 53 : (SEE CRFINSKEY.MAR)
0000 54 :
0000 55 : CALLING SEQUENCE:
0000 56 :
0000 57 : CALLS #4,LIB$CRF_INS_KEY
0000 58 :
0000 59 : INPUT PARAMETERS:
0000 60 :
0000 61 : CRF$$_IK_CTLTBL(AP) ADDRESS OF THE OUTPUT FORMAT TABLE
0000 62 : CRF$$_IK_KEYADR(AP) ADDRESS OF KEY
0000 63 : CRF$$_IK_VALADR(AP) ADDRESS OF THE VALUE
0000 64 : CRF$$_IK_VALFLG(AP) ADDRESS OF THE VALUE FLAGS
0000 65 :
0000 66 :--
0000 67 :
0000 68 .PSECT $CODE$, EXE, NOWRT
0000 69
0000 70 .ENTRY LIB$CRF_INS_KEY, ^M<>
0002 71
7E 10 BC 3C 0002 72 MOVZWL @CRF$$_IK_VALFLG(AP),-(SP) ; EXTRACT THE VALUE FLAGS AND STACK
0C AC DD 0006 73 PUSHL CRF$$_IK_VALADR(AP) ; STACK ADDRESS OF VALUE
08 AC DD 0009 74 PUSHL CRF$$_IK_KEYADR(AP) ; STACK KEY ADDRESS
04 AC DD 000C 75 PUSHL CRF$$_IK_CTLTBL(AP) ; STACK CONTROL TABLE ADDRESS
0000'CF 04 FB 000F 76 CALLS #4,W^CRF$INSRTKEY ; INSERT KEY
0014 77
04 0014 78 RET ; ALL DONE
```

```
0015 80 .SBTTL LIB$CRF_INS_REF INSERT REFERENCE
0015 81 :++
0015 82 : FUNCTIONAL DESCRIPTION:
0015 83 :
0015 84 : (SEE CRFINSREF.MAR)
0015 85 :
0015 86 : CALLING SEQUENCE:
0015 87 :
0015 88 : CALLS #5, LIB$CRF_INS_REF
0015 89 :
0015 90 : INPUT PARAMETERS:
0015 91 :
0015 92 : CRF$IR_CTLTBL(AP) ADDRESS OF THE OUTPUT FORMAT TABLE
0015 93 : CRF$IR_KEYADR(AP) ADDRESS OF KEY
0015 94 : CRF$IR_REFADR(AP) ADDRESS OF THE REFERENCE INDICATOR
0015 95 : CRF$IR_REFLAG(AP) ADDRESS OF THE REFERENCE FLAGS
0015 96 : CRF$IR_DEFIND(AP) ADDRESS OF DEF/REF INDICATOR
0015 97 :
0015 98 :--
0015 99 :
0000 0015 100 .ENTRY LIB$CRF_INS_REF, ^M<>
0017 101
0017 102 MOVZBL @CRF$IR_DEFIND(AP), -(SP) ; STACK DEF/REF INDICATOR
001B 103 MOVZWL @CRF$IR_REFLAG(AP), -(SP) ; STACK REFERENCE FLAGS
001F 104 PUSHL CRF$IR_REFADR(AP) ; STACK ADDRESS OF REFERENCE INDICAT
0022 105 PUSHL CRF$IR_KEYADR(AP) ; STACK ADDRESS OF KEY
0025 106 PUSHL CRF$IR_CTLTBL(AP) ; STACK CONTROL TABLE ADDRESS
0028 107 CALLS #5, W^CRF$INSRTREF ; INSERT REFERENCE
002D 108 RET
```

7E 14 BC 9A 0017 102  
7E 10 BC 3C 001B 103  
0C AC DD 001F 104  
08 AC DD 0022 105  
04 AC DD 0025 106  
0000'CF 05 FB 0028 107  
04 002D 108

```
002E 110 .SBTTL LIB$CRF_OUTPUT OUTPUT THE CROSS REFERENCE LISTING
002E 111
002E 112 :++
002E 113 : FUNCTIONAL DESCRIPTION:
002E 114 :
002E 115 : (SEE CRFOUT.MAR)
002E 116 :
002E 117 : CALLING SEQUENCE:
002E 118 :
002E 119 : CALLS #6,LIB$CRF_OUTPUT
002E 120 :
002E 121 : INPUTS PARAMETERS:
002E 122 :
002E 123 : CRF$SL_OU_CTLTBL(AP) ADDRESS OF THE OUTPUT FORMAT TABLE
002E 124 : CRF$SL_OU_LINWID(AP) ADDRESS OF THE LINE WIDTH
002E 125 : CRF$B_OU_PAG1(AP) ADDRESS OF NUMBER OF LINES ON FIRST PAGE
002E 126 : CRF$B_OU_SUCPAG(AP) ADDRESS OF NUMBER OF LINES ON SUCCESSIVE PAGES
002E 127 : CRF$B_OU_PRTIND(AP) ADDRESS OF THE PRINT INDICATOR
002E 128 : CRF$K_VALUES PRINT VALUES
002E 129 : CRF$K_DEFS_REFS PRINT VALUES, DEFS AND REFS
002E 130 : CRF$K_VALS_REFS PRINT VALUES AND REFS
002E 131 : CRF$B_OU_SAVIND(AP) ADDRESS OF THE SAVE/DELETE INDICATOR
002E 132 : CRF$K_SAVE SAVE THE CRF TABLE
002E 133 : CRF$K_DELETE DELETE THE CRF TABLE
002E 134 :
002E 135 :--
0000 002E 136
002E 137 .ENTRY LIB$CRF_OUTPUT, ^M<>
0030 138
0030 139 MOVZBL @CRF$B_OU_SAVIND(AP),-(SP) ; STACK SAVE/DELETE INDICATOR
0034 140 MOVZBL @CRF$B_OU_PRTIND(AP),-(SP) ; STACK PRINT INDICATOR
0038 141 MOVZBL @CRF$B_OU_SUCPAG(AP),-(SP) ; STACK # LINES ON SUCCESSIVE PAGES
003C 142 MOVZBL @CRF$B_OU_PAG1(AP),-(SP) ; STACK # LINES ON FIRST PAGE
0040 143 PUSHL @CRF$SL_OU_LINWID(AP) ; STACK THE LINE WIDTH
0043 144 PUSHL CRF$SL_OU_CTLTBL(AP) ; STACK CONTROL TABLE ADDRESS
0046 145 CALLS #6,W^CRF$OUT ; OUTPUT THE CROSS REFERENCE
004B 146 RET
004C 147
004C 148 .END
```



CRFOR  
Symbol table

I 10  
FORTRAN-CALLABLE CRF INTERFACE ROUTINES

15-SEP-1984 23:38:15  
4-SEP-1984 23:39:00

VAX/VMS Macro V04-00  
[CRF.SRC]CRFOR.MAR;1

Page 6  
(5)

CRFSB_IR_DEFIND	= 00000014		
CRFSB_OU_PAG1	= 0000000C		
CRFSB_OU_PRTIND	= 00000014		
CRFSB_OU_SAVIND	= 00000018		
CRFSB_OU_SUCPAG	= 00000010		
CRF\$INSRTKEY	*****	X	02
CRF\$INSRTREF	*****	X	02
CRFSL_IK_CTLTBL	= 00000004		
CRFSL_IK_KEYADR	= 00000008		
CRFSL_IK_VALADR	= 0000000C		
CRFSL_IR_CTLTBL	= 00000004		
CRFSL_IR_KEYADR	= 00000008		
CRFSL_IR_REFADR	= 0000000C		
CRFSL_OU_CTLTBL	= 00000004		
CRFSL_OU_LINWID	= 00000008		
CRF\$OOT	*****	X	02
CRFSW_IK_VALFLG	= 00000010		
CRFSW_IR_REFLAG	= 00000010		
LIB\$CRF_INS_KEY	00000000	RG	02
LIB\$CRF_INS_REF	00000015	RG	02
LIB\$CRF_OUTPUT	0000002E	RG	02

+-----+  
! Psect synopsis !  
+-----+

PSECT name	Allocation	PSECT No.	Attributes														
. ABS .	00000000 ( 0.)	00 ( 0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE				
\$AB\$\$	00000000 ( 0.)	01 ( 1.)	NOPIC	USR	CON	ABS	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE				
\$CODE\$	0000004C ( 76.)	02 ( 2.)	NOPIC	USR	CON	REL	LCL	NOSHR	EXE	RD	NOWRT	NOVEC	BYTE				

+-----+  
! Performance indicators !  
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	42	00:00:00.08	00:00:00.41
Command processing	168	00:00:00.59	00:00:02.25
Pass 1	129	00:00:01.18	00:00:04.31
Symbol table sort	0	00:00:00.02	00:00:00.04
Pass 2	44	00:00:00.39	00:00:01.02
Symbol table output	4	00:00:00.02	00:00:00.03
Psect synopsis output	2	00:00:00.02	00:00:00.03
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	391	00:00:02.31	00:00:08.10

The working set limit was 1050 pages.  
3968 bytes (8 pages) of virtual memory were used to buffer the intermediate code.  
There were 10 pages of symbol table space allocated to hold 46 non-local and 0 local symbols.  
148 source lines were read in Pass 1, producing 22 object records in Pass 2.  
8 pages of virtual memory were used to define 7 macros.

-----  
! Macro library statistics !  
-----

Macro library name

Macros defined

-----  
\$255\$DUA28:[CRF.OBJ]CRF.MLB;1  
\$255\$DUA28:[SYSLIB]STARLET.MLB;2  
TOTALS (all libraries)

-----  
1  
3  
4

99 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS\$:CRFOR/OBJ=OBJ\$:CRFOR MSRC\$:CRFOR/UPDATE=(ENH\$:CRFOR)+LIB\$:CRF/LIB



0068 AH-BT13A-SE  
VAX/VMS V4.0

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